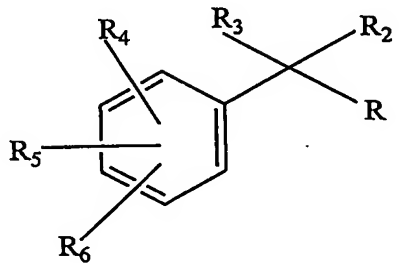
Claims

1. A sodium channel blocker represented by the general structure:



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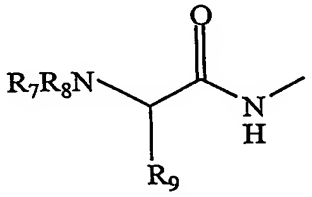
wherein R is selected from the group consisting of C_1-C_{12} alkyl, C_2-C_9 alkenyl, C_2-C_9 alkynyl, $-(CH_2)_mCOOH$, $-(CH_2)_mNH_2$, $-(CH_2)_mCONH_2$, $-(CH_2)_nC_3$-C_6 cycloalkyl, $-(CH_2)_n$aryl, $-(CH_2)_n$substituted aryl, $-(CH_2)_pNCH_3(CH_2)_p$substituted aryl and $-(CH_2)_n$substituted heterocyclic, wherein m is an integer ranging from 3-8, n is an integer ranging from 0-4 and p is an integer ranging from 1-4;

R_2 is selected from the group consisting of $-(CH_2)_nCOOH$, $-(CH_2)_nNH_2$, and $-(CH_2)_nCONHR_{10}$;

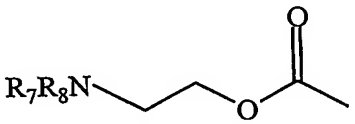
R_3 is selected from the group consisting of hydroxy, amino, C_1-C_4 alkoxy, $-CH_2OH$ and $-CONH_2$, or R_2 and R_3 taken together with the atoms to which they are attached form an optionally substituted heterocyclic ring;

R_4 and R_5 are independently selected from the group consisting of H, halo, C_1-C_4 alkyl, C_2-C_4 alkenyl, C_2-C_4 alkynyl, and C_1-C_4 alkoxy; and

R_6 is selected from the group consisting of H, C_1-C_8 alkyl,



and



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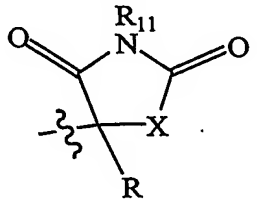
wherein R_7 and R_8 are independently selected from the group consisting of H, C_1-C_4 alkyl, C_2-C_4 alkenyl and C_2-C_4 alkynyl, and R_9 is H, or R_8 and R_9 taken together with the atoms to which they are attached form an optionally substituted heterocyclic ring, and R_{10} is selected from the group consisting of H, benzyl and C_1-C_4 alkyl, with the proviso that when R_2 and R_3 taken together form a heterocyclic ring, R is not $-(CH_2)_n$aryl.

2. The compound of claim 1, wherein R_2 is $-(CH_2)_nCONH_2$; and R_3 is hydroxyl.

3. The compound of claim 1, wherein R_2 and R_3 taken together with the atoms to which they are attached form a heterocyclic ring having the structure:

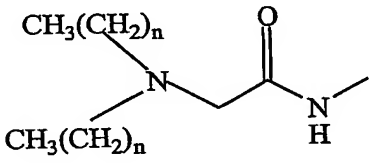


wherein X is selected from the group consisting of $-CHR_{12}-$, -O- and $-NR_{12}-$, wherein R_{11} and R_{12} are independently selected from the group consisting of H, benzyl and C_1-C_4 alkyl.

4. The compound of claim 2 or 3 wherein R is selected from the group consisting of C_1-C_{12} alkyl, C_2-C_8 alkenyl and C_2-C_8 alkynyl.

5. The compound of claim 2 or 3 wherein R_4 and R_5 are independently selected from the group consisting of H, halo and C_1-C_4 alkyl; and

R_6 is selected from the group consisting of H,



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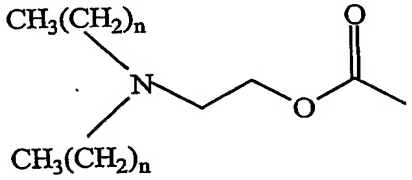
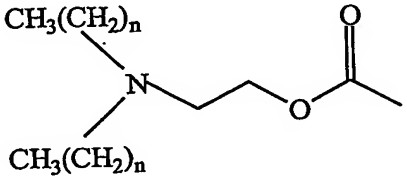


wherein n is an integer ranging from 0-2.

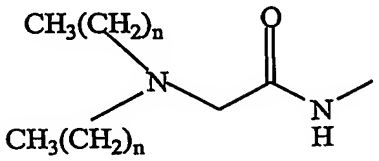
6. The compound of claim 5 wherein R_4 and R_6 are both H, and R_5 is Cl or F.

7. The compound of claim 5 wherein R_4 and R_5 are both H, and R_6 is



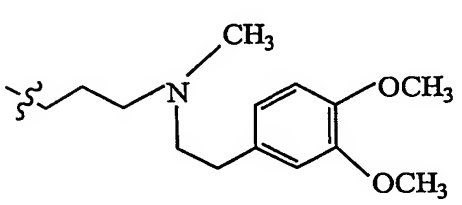
wherein n is an integer ranging from 0-2.

8. The compound of claim 5 wherein R_4 and R_5 are both C_1-C_4 alkyl, and R_6 is



wherein n is an integer ranging from 0-2.

9. The compound of claim 2 or 3 wherein R is



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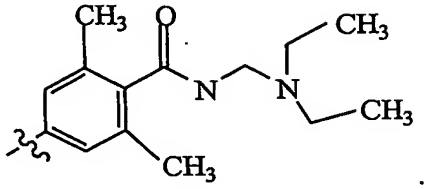
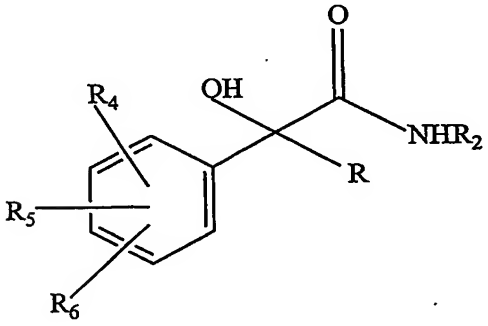


;

R_4 and R_5 are independently selected from the group consisting of H, halo and C_1-C_4 alkoxy; and

R_6 is H.

10. A pharmaceutical composition comprising a compound represented by the general formula:



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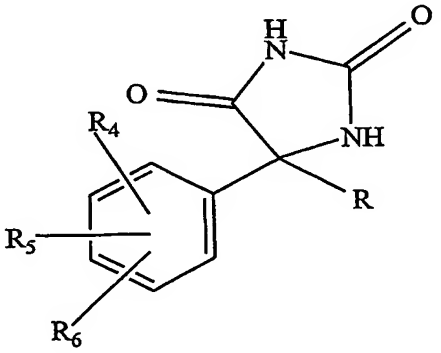
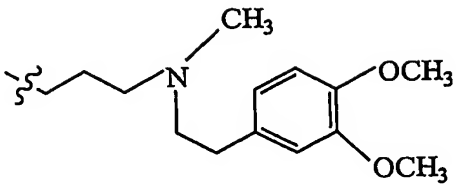


wherein R is selected from the group consisting of C_1-C_{12} alkyl, C_2-C_8 alkenyl, C_2-C_8 alkynyl, -$(CH_2)_nC_3$-C_6 cycloalkyl,



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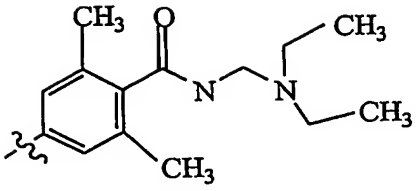
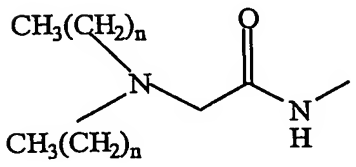


wherein n is an integer ranging from 0-4;

R_2 is H or C_1-C_4 alkyl;

R_4 and R_5 are independently selected from the group consisting of H, halo, C_1-C_4 alkyl, C_2-C_4 alkenyl, C_2-C_4 alkynyl, -COR_{11} and (C_1-C_4) alkoxy; and

R_6 is selected from the group consisting of H, halo,



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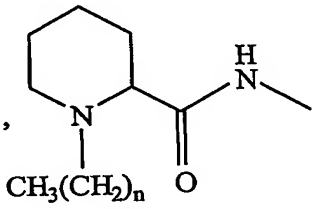

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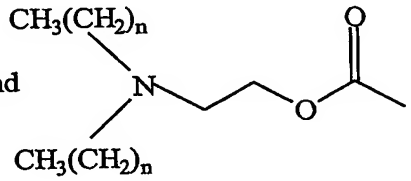


wherein R_{11} is selected from the group consisting of H, C_1-C_4 alkyl, NH_2 and OH; and

a pharmaceutically acceptable carrier.

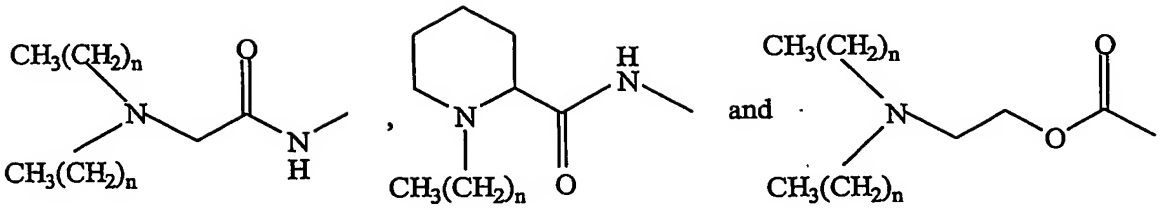
11. The composition of claim 10 further comprising an anti-tumor agent.

12. The composition of claim 11, wherein the anti-tumor agent is a chemotherapeutic.

13. The composition of claim 10, wherein R is selected from the group consisting of C_1-C_{12} alkyl;

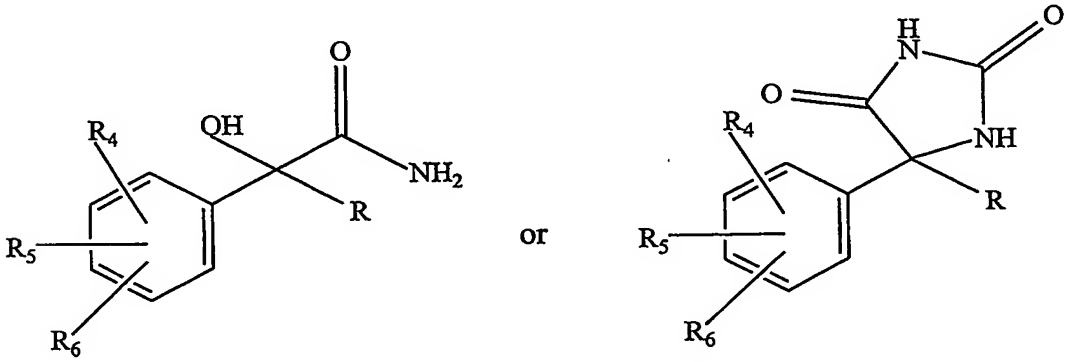
R_4 and R_5 are independently selected from the group consisting of H, halo and C_1-C_4 alkyl; and

R_6 is selected from the group consisting of H,

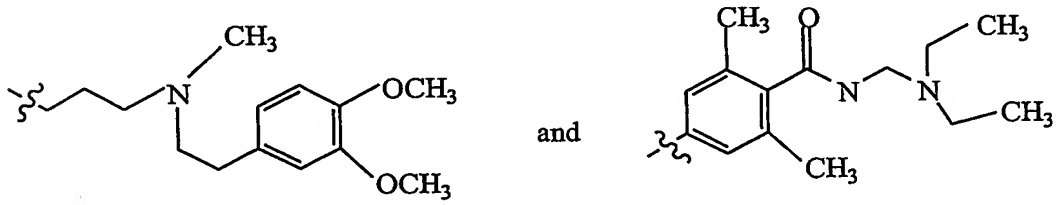


wherein n is an integer ranging from 0-4.

14. A method of specifically inhibiting voltage-gated sodium channels, said method comprising the step of contacting said sodium channel with a compound represented by the general structure:

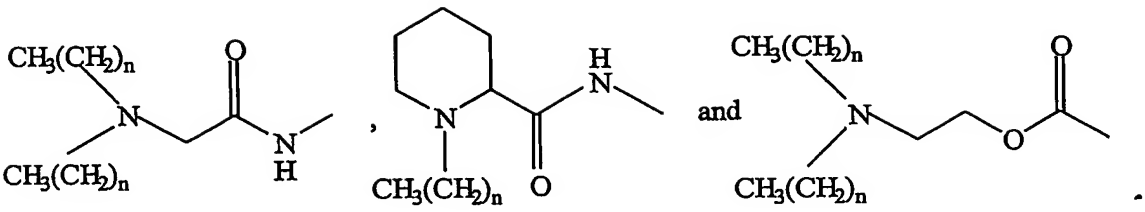


wherein R is selected from the group consisting of C_1-C_{12} alkyl, C_2-C_8 alkenyl, C_2-C_8 alkynyl, -$(CH_2)_nC_3$-C_6 cycloalkyl,



R_4 and R_5 are independently selected from the group consisting of H, halo, C_1-C_4 alkyl, C_2-C_4 alkenyl, C_2-C_4 alkynyl, -COR_{11} and (C_1-C_4) alkoxy; and

R_6 is selected from the group consisting of H, halo,

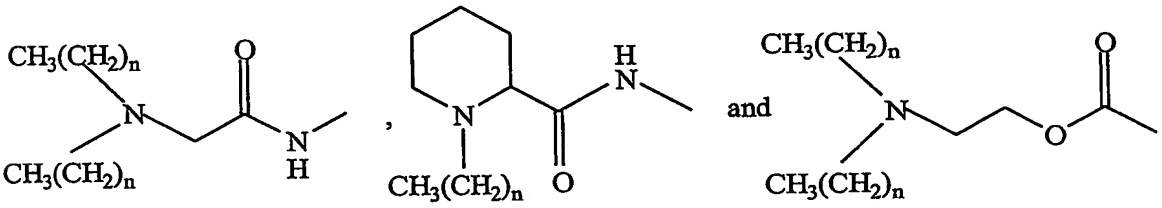


wherein R_{11} is selected from the group consisting of H, C_1-C_4 alkyl, NH_2 and OH, and n is an integer ranging from 0-4.

15. The method of claim 14 wherein R is selected from the group consisting of C_1-C_{12} alkyl;

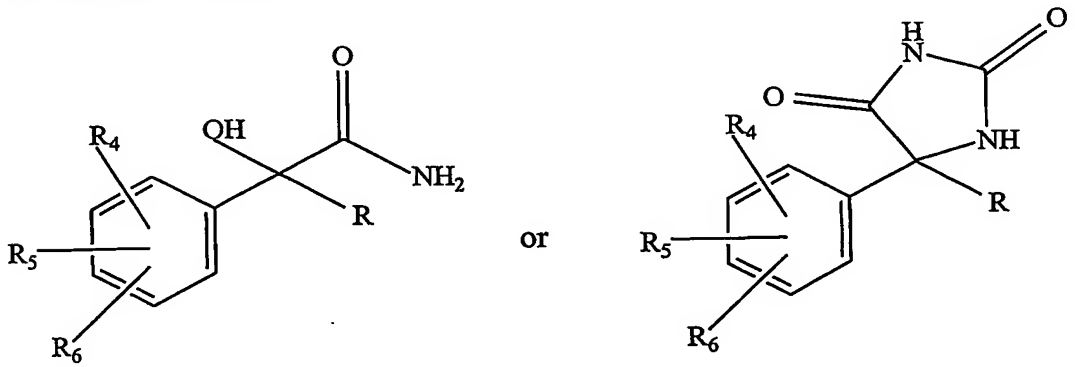
R_4 and R_5 are independently selected from the group consisting of H, halo and C_1-C_4 alkyl; and

R_6 is selected from the group consisting of H,

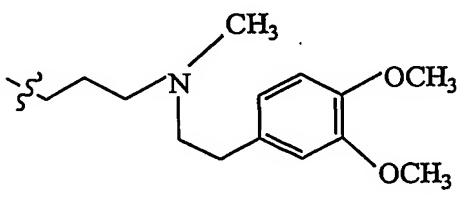


wherein n is an integer ranging from 0-4.

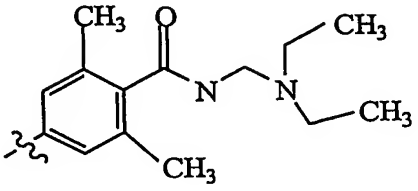
16. A method for treating a neoplastic disease, said method comprising the step of administering to a patient in need thereof a composition comprising a compound represented by the general structure:



wherein R is selected from the group consisting of C_1-C_{12} alkyl, C_2-C_8 alkenyl, C_2-C_8 alkynyl, -$(CH_2)_nC_3$-C_6 cycloalkyl,



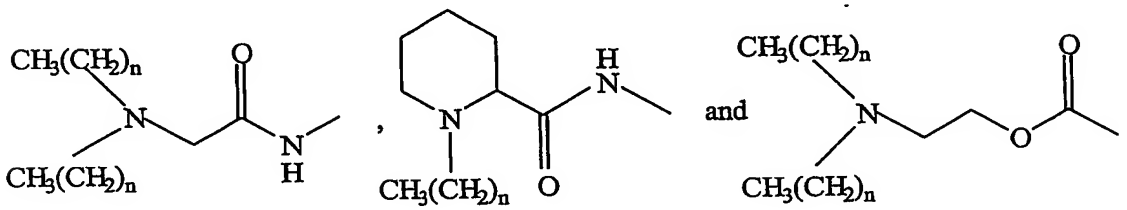
and



wherein n is an integer ranging from 0-4;

R_4 and R_5 are independently selected from the group consisting of H, halo, C_1-C_4 alkyl, C_2-C_4 alkenyl, C_2-C_4 alkynyl, -COR_{11} and (C_1-C_4) alkoxy; and

R_6 is selected from the group consisting of H, halo,

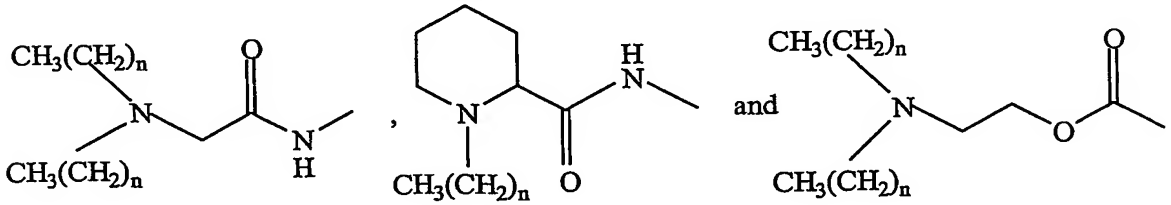


wherein R_{11} is selected from the group consisting of H, C_1-C_4 alkyl, NH_2 and OH.

17. The method of claim 16 wherein R is selected from the group consisting of C_1-C_{12} alkyl;

R_4 and R_5 are independently selected from the group consisting of H, halo and C_1-C_4 alkyl; and

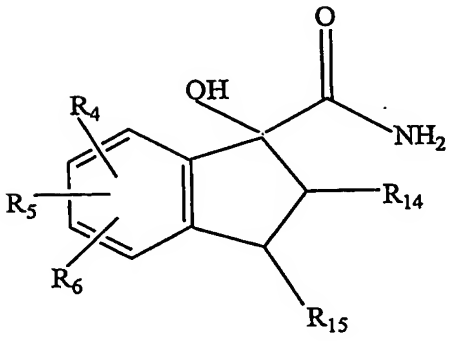
R_6 is selected from the group consisting of H,



wherein n is an integer ranging from 0-4.

18. The method of claim 17 wherein R_4 and R_5 are independently selected from the group consisting of H and halo; and R_6 is H.

19. A sodium channel blocker represented by the general structure



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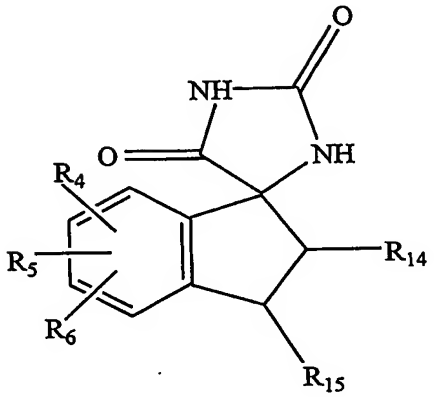
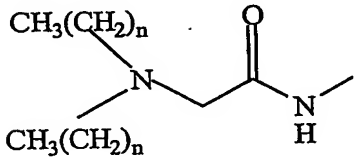
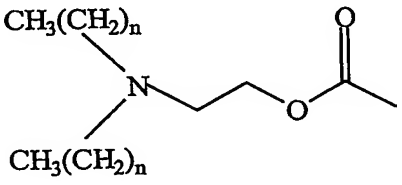


wherein R_4 and R_5 are independently selected from the group consisting of H, halo and C_1-C_4 alkyl;

R_6 is selected from the group consisting of H,



and



wherein n is an integer ranging from 0-4 and

R_{14} and R_{15} are independently selected from the group consisting of H and halo, or R_{14} and R_{15} taken together with the atoms to which they are attached form an optionally substituted C_5-C_6 aryl.

20. The compound of claim 19 wherein R_4, R_5 and R_6 are independently H or halo; and

R_{14} and R_{15} are each H or taken together with the atoms to which they are attached form a phenyl ring.